

G. F. Taylor,

Carpet Cleaner.

No. 92,226.

Patented July 6, 1869.

Fig. 1.

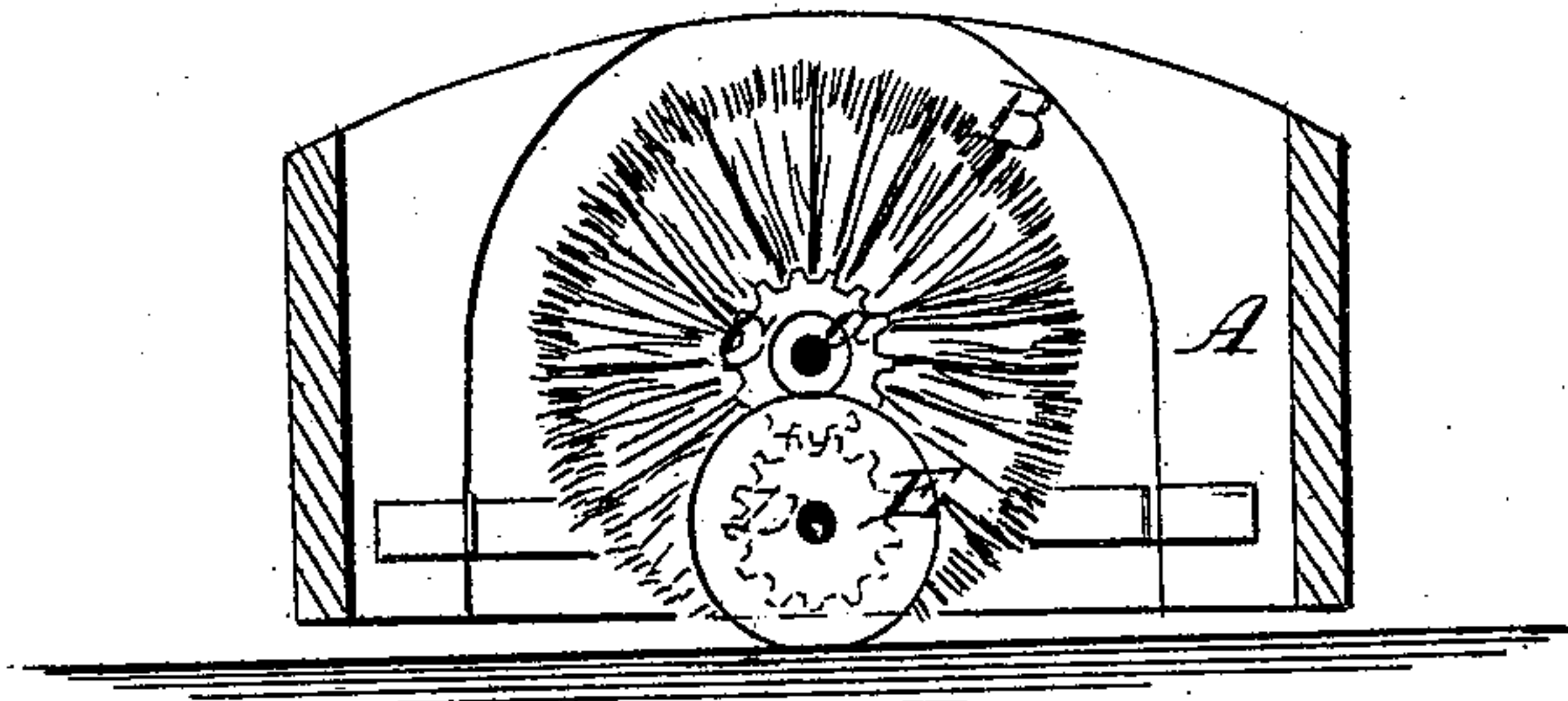
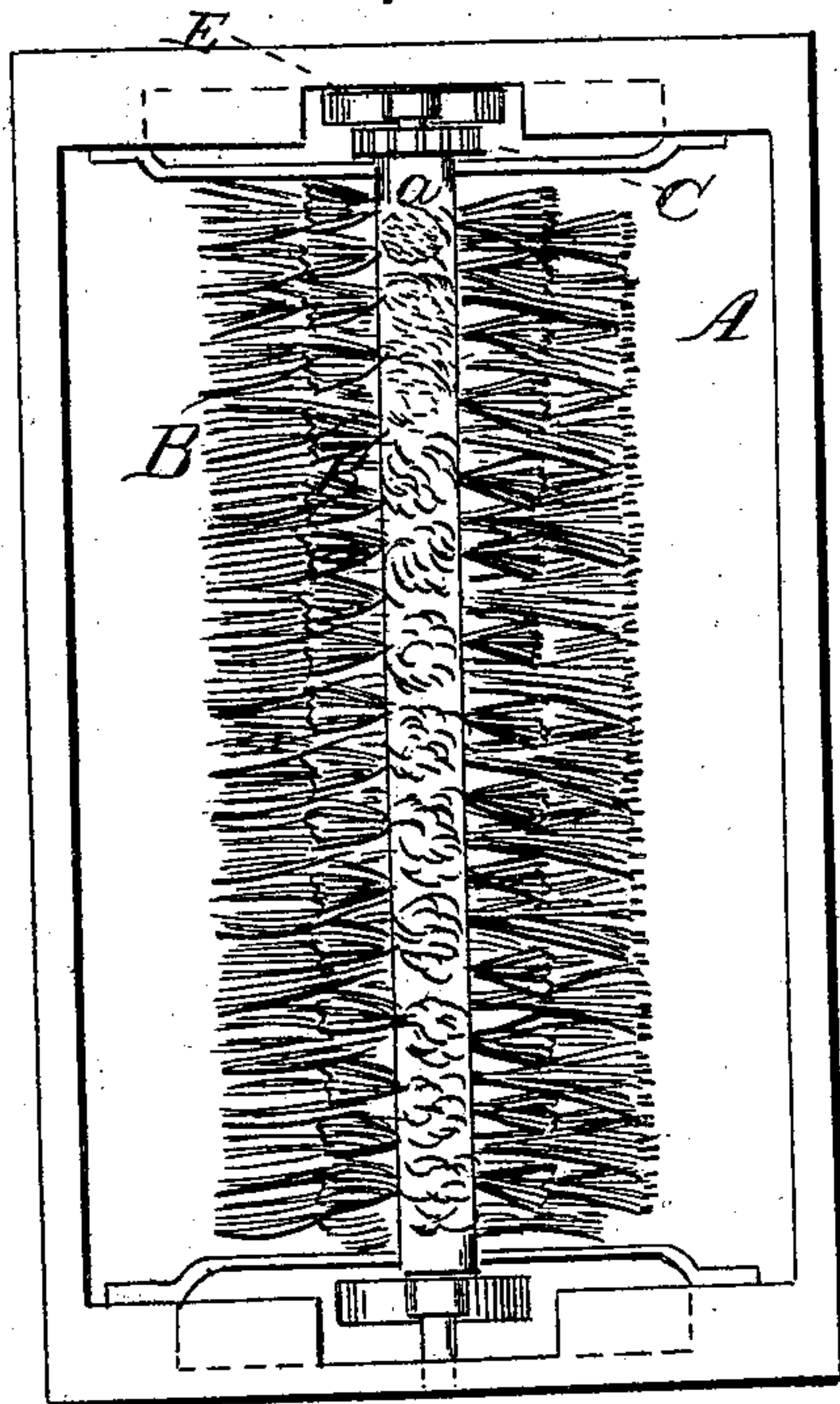


Fig. 2.



Witnesses:

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GILBERT F. TAYLOR, OF NEW YORK, N. Y.

Letters Patent No. 92,226, dated July 6, 1869.

IMPROVED CARPET-SWEEPER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GILBERT F. TAYLOR, of the city, county, and State of New York, have invented a new and improved Carpet-Sweeping Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

This invention relates to a new and improved carpet-sweeping machine; and

It consists in a novel arrangement of gears, in connection with a friction or traction-wheel, all arranged, relatively with the rotating brush of the machine, in such a manner as to obtain a very important result, as hereinafter set forth.

In the accompanying sheet of drawings—

Figure 1 is a transverse vertical section of my invention, taken in the line $x x$, fig. 2.

Figure 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

Carpet-sweeping machines have hitherto been constructed in three different ways, as regards the means employed to drive the rotating brushes. In some machines, friction-wheels solely have been employed for such purpose. In others, belts or bands, in connection with a traction-wheel; and, in others, again, gears, in connection with a traction-wheel, have been used.

With the two former modes I have nothing to do, as they are essentially different from my improvement. I would merely state, however, that they do not give general satisfaction on account of the friction-wheels, in the first-mentioned instance, soon becoming inoperative or inefficient from wear, and the belts or bands, in the second-mentioned instance, being liable to get loose, and failing to operate the brush. The third-mentioned instance, the gearing, I will briefly allude to, as my present invention is an improvement upon that.

On one end of the rotating shaft of the brush, there is keyed, or otherwise secured, a pinion, into which a toothed wheel gears, the latter being at one side (the inner one) of a wheel, which has a smooth periphery, and rests upon the floor or carpet, so that it will get its motion by friction or traction, as the machine is shoved along.

This friction or traction-wheel is larger in diameter than the toothed wheel, which is attached to or cast with it, so that the latter will be above, or free from the floor or carpet, and not interfere at all with the free motion of the friction or traction-wheel.

This latter wheel is placed in front of the axis or shaft of the rotating brush, (see patent granted to Hiram H. Herrick, September 6, 1859,) and, as the machine is supported by this wheel, at one side, which wheel is near the front part of the box which contains the rotating brush, the latter, when the machine is in use, or is being shoved along, is raised and lowered,

vibrated up and down, under the unsteady motion of the hand of the operator, and, the consequence is, that the carpet is not perfectly swept. This is an inevitable result of having the axis of the friction or traction-wheel in a line or plane in front of the shaft or axis of the rotating brush.

My invention consists in having the friction or traction-wheel immediately below or underneath the shaft of the rotating brush, the axis of the former coinciding with or being in the same vertical plane with the axis of the latter, the friction or traction-wheel having a toothed wheel at its inner side, the latter being smaller in diameter than the former, and gearing into a pinion on the shaft of the rotating brush.

By this arrangement, which will be hereinafter fully shown and described, the friction or traction-wheel is made to sustain the whole weight of the box or case in which the operating-mechanism is placed; or, at least, one side of said box or case bears upon the axis of said wheel, and sufficient traction insured to operate the rotating brush at all times, while the latter, in consequence of having its axis directly over and in the same plane with the axis of the driving-wheel, is never rendered inefficient in consequence of being raised above the carpet under an unsteady motion of the hand of the operator.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the case or box, in which a rotating brush, B, is placed; and allowed to turn freely.

On the shaft a of this brush, near one end thereof, there is firmly keyed, or otherwise secured, a pinion or toothed wheel, C, into which a toothed wheel, D, gears, the latter being of equal diameter with C, or larger than the same, as desired.

The wheel D is permanently attached to or cast with a wheel, E, which has a smooth periphery, and is larger in diameter than D, so that the latter will be above or free from the floor or carpet.

The wheel D is, at the inner side of E, concentric, of course, therewith, and the axis of the wheels D E is in the same plane with the axis or shaft a of the rotating brush B, the wheel D being directly underneath the wheel or pinion C, and the shaft a of the brush being in the same plane with the axis of D E, said plane, when the machine is in use, being in a vertical or nearly vertical position.

By this arrangement it will be seen, that when the machine is in use, the weight of the case or box A, at one side, is supported by the friction or traction-wheel E, and the latter is thereby made to have sufficient traction to drive the brush B, the rotation of the latter being insured at all times.

I would remark that the brush B should have such a position as regards height, that its bristles will act efficiently upon the carpet, and when the brush is thus properly adjusted, it is allowed to remain so until

its diameter is reduced by wear, when it should be lowered to a proper position, so that it may operate as before, the journals of the shaft or axis *a* being fitted in bearings, so arranged as to admit of that being done.

In using the machine, the rotating brush B will always be at the proper height. It cannot vibrate, or rise and fall, so as to be above or free from the floor or carpet at any time. The handle of the device will, of course, vibrate, or move up and down under an unsteady motion of the hand of the operator, but without affecting in the least the position of the brush, as the shaft or axis of the latter serves as a fulcrum for the box or case A to work upon.

I would remark, that in my invention, a loose roller is placed on the shaft *a* of the brush B, at the left-hand side of the box or case, to support that side of the latter, and a roller, thus placed, has been used also on the machines arranged with gears in the old way, as shown in Herrick's patent, previously alluded to. But a roller, when applied to this last-named machine, does not improve it at all, as the friction or traction-wheel is then liable to be raised from the floor or carpet by a very slight depression of the handle of

the machine, the shaft *a* serving as a fulcrum for the box or case, and the handle.

Having thus described my invention, I would state that I do not claim, broadly, operating the rotating brush of a carpet-sweeping machine by means of gears, for that is an old idea, and has been in previous use; neither do I claim, in the abstract, gears, in connection with a friction or traction-wheel; but

I do claim as new, and desire to secure by Letters Patent—

The combination of the two toothed wheels or gears C D, the upper one, C, on the axis of the vibrating brush, being permanently keyed, or otherwise secured, on the shaft *a* of the rotating brush B, and the other wheel, D, being attached to or cast with a friction or traction-wheel, E, when said gears are placed, one directly over the other, and with the axis of the rotating brush in the same axial plane, having a vertical or nearly vertical position, substantially as and for the purpose herein set forth.

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Witnesses:

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